

Source Water Assessment Report



Public Water Supply: ABILENE, CITY OF

**Assessment Areas Include:
1027, 1028, 1029, 1080, 1081, 1082**



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Reports were generated with the Automated Source Water Assessment Tool (ASWAT). Assessments were completed online using ASWAT by hundreds of state employees, public water supply staff, and technical assistant providers throughout the State of Kansas.

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Report Description

Detailed Explanation of Entire Report:

The 1996 amendments to the Safe Drinking Water Act require each state to develop a Source Water Assessment Program (SWAP) and a Source Water Assessment (SWA) for each Public Water Supply (PWS) that treats and distributes raw source water. In Kansas there are 761 public water supplies that require SWAs. A SWA includes a delineation of the source water assessment area, an inventory of potential contaminant sources, and a susceptibility analysis.

A PWS can consist of one or more individual assessment areas that require different assessments. In general, an assessment area is delineated at a two-mile fixed radius for a groundwater well. A surface water intake assessment area is the upstream-drainage area (watershed), inside the state border. Additionally, an assessment area can consist of an individual well, group of wells, an individual surface water intake, or multiple surface water intakes.

After each assessment is completed a report is automatically generated using an Internet-based application called the Automated Source Water Assessment Tool (ASWAT). The individual assessment reports combine to form the entire SWA report for a PWS.

A map of each Assessment Area was also generated with ASWAT. However, for security reasons the maps are not included in this report. To obtain a copy of the map(s), please contact your local PWS.

All PWS reports will be available for viewing and downloading on KDHE's Watershed Management Section website(<http://www.kdhe.state.ks.us/nps>) in 2004.

ABILENE, CITY OF Summary:

AA	Type	Diversion Id
1027	Ground water single well	017
1028	Ground water multiple wells	016,
1029	Ground water single well	018
1080	Ground water multiple wells	0, , ,
1081	Ground water single well	0
1082	Ground water single well	0

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**
Diversion Id's: **017**
Status: **Accepted**
Submit Date: **2003-04-15 16:10:43**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	44	45	37	40	42	38
SLS Range	Low	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195569	Single-family Housing Construction	1521	C
195662	Nonresidential Construction	1542	C
195589	Local Trucking, without Storage	4212	C
195526	Farm Product Warehousing and Storage	4221	C
195525	Auto Truck Repair Service	7538	C
195574	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000266	Barber Service Station	03179	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001035	Everetts Inc	14208	C
3001074	Abilene Mini-mart	15599	C
3001595	Abilene Municipal Airport	26074	C
3002188	Vacublast	29033	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000714	ABILENE PWS, VACUBLAST CORP.	C502100001	C

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000208	V*B INTERIM, INC.	I-SH01-PO03	C
6000883	ABILENE WTF PLANT	I-SH01-PO04	C
6001695	ABILENE WWTP	M-SH01-OO01	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6001696	ABILENE WWTP	M-SH01-OO01	C
6001697	ABILENE WWTP	M-SH01-OO01	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000734	residential community	0	B
9000782	Dog track	10005	B
9000776	rural residence	10008	B
9000777	rural residence	10008	B
9000793	rural residence	10008	B
9000990	farmstead	10008	B
9000779	railroad track	10013	B
9000781	railroad track	10013	B
9000741	onsite wastewater system	10066	B
9000742	onsite wastewater system	10066	B
9000743	onsite wastewater system	10066	B
9000744	onsite wastewater system	10066	B
9000745	onsite wastewater system	10066	B
9000746	onsite wastetwater system	10066	B
9000747	onsite wastewater system	10066	B
9000748	onsite wastewater system	10066	B
9000749	onsite wastewater system	10066	B
9000750	onsite wastewater system	10066	B
9000751	onsite wastewater system	10066	B
9000752	onsite wastewater system	10066	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000753	onsite wastewater system	10066	B
9000754	onsite wastewater system	10066	B
9000755	onsite wastewater system	10066	B
9000759	onsite wastewater system	10066	B
9000760	septic	10067	B
9000761	septic	10067	B
9000762	septic	10067	B
9000763	septic system	10067	B
9000764	septic system	10067	B
9000780	septic system	10067	B
9000784	septic system	10067	B
9000785	septic system	10067	B
9000786	septic system	10067	B
9000790	septic sytem	10067	B
9000791	septic system	10067	B
9000974	septic system	10067	B
9000983	septic system	10067	B
9001006	septic system	10067	B
9000975	sorghum	10085	B
9000985	alfalfa	10086	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000987	alfalfa	10086	B
9000991	alfalfa	10086	B
9000994	alfalfa	10086	B
9000996	alfalfa	10086	B
9000998	alfalfa	10086	B
9001009	alfalfa	10086	B
9001010	alfalfa	10086	B
9001011	alfalfa	10086	B
9000982	wheat field	111	B
9000972	corn field	115	B
9000995	soybeans	116	B
9000735	abandoned feedlot	2048	B
9000988	airport runway	4582	B
9000933	mobile home park	6515	B
9000973	greyhound farm	752	B
9001001	concentration of septic systems	0	C
9001012	farmstead	10008	C
9001008	railroad track	10013	C
9000756	onsite wastewater system	10066	C
9000757	onsite wastewater system	10066	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000758	onsite wastewater system	10066	C
9000787	septic system	10067	C
9000789	septic system	10067	C
9000794	septic system	10067	C
9000984	septic system	10067	C
9000986	alfalfa	10086	C
9000989	alfalfa	10086	C
9000993	wheat	111	C
9000796	cattle feedlot	2048	C
9000999	cattle farm	211	C
9000783	greyhound farm	752	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **ABILENE, CITY OF**
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
1	0	3	1	4	1

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Public Water Supply: **ABILENE, CITY OF**
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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
4212	Local Trucking, without Storage	VOCs	D
1542	Nonresidential Construction	Sedimentation	B2
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D

Public Water Supply: **ABILENE, CITY OF**
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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
1521	Single–family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Ground Water Single Well Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is the well under the influence of surface water?	No	0	0	0	0	0	0
2	Does the well meet KS water well construction standards?	Yes	0	0	0	0	0	0
3	Is the depth of the well less than 30 feet?	No	0	0	0	0	0	0
4	Are there unplugged, abandoned water wells present in Zone A?	No	0	0	0	0	0	0
5	Is there gravel pack within 20 feet of the surface?	No	0	0	0	0	0	0
6	Does a PWS own or control Zone A?	No	1	1	1	1	1	1
7	Does Zone A consist entirely of native grass?	No	1	1	1	1	1	1
8	Is there a contaminated well in the Zone A?	No	0	0	0	0	0	0
9	Is a class V UIC well present?	No	0	0	0	0	0	0
10	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
11	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
12	Are any non-farm home sites present in Zone B?	No	0	0	0	0	0	0
13	Do all the non-farm home sites have a water quality protection plan?	Yes	0	0	0	0	0	0
14	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
15	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
16	Does Zone B consist entirely of native grass?	No	1	1	1	1	1	1
17	Is there grazing livestock in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
19	Is there livestock confinement in Zone B?	Yes	1	1	1	0	1	0
20	Is each confined animal feeding operation registered with KDHE?	No	1	1	1	0	1	0
21	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
22	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are any orchards present in Zone B?	No	0	0	0	0	0	0
24	Are orchard nutrient and pesticide plans in use for each site?	Yes	0	0	0	0	0	0
25	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
26	Is there a railroad or major highway in Zone B or C?	No	0	0	0	0	0	0
27	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
28	Do coarse textured soils predominate Zones A, B and C?	No	0	0	0	0	0	0
29	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
30	Is a wastewater treatment facility in Zone B or C?	Yes	1	1	1	1	1	1
31	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
32	Are there unplugged, abandoned water wells present in Zone B or C?	Yes	1	0	0	0	0	0
33	Are any commercial, industrial, or urban areas present in Zone C?	Yes	1	1	1	1	1	1
34	Are water quality protection plans in use for each site/area?	Yes	0	0	0	0	0	0
35	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
36	Is each confined livestock facility registered with KDHE?	No	1	1	1	0	1	0
37	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
38	Are cropland nutrient management plans in place?	Yes	0	0	0	0	0	0
39	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
40	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
41	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**
Diversion Id's: **017**
Status: **Accepted**
Submit Date: **2003-04-15 16:10:43**

Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Dog track	9000782	greyhound track	David Gurss
abandoned feedlot	9000735	abandoned feedlot	David Gurss
airport runway	9000988	airport runway	David Gurss
alfalfa	9000985	alfalfa	David Gurss
alfalfa	9000986	alfalfa	David Gurss
alfalfa	9000987	alfalfa	David Gurss
alfalfa	9000989	alfalfa	David Gurss
alfalfa	9000991	alfalfa	David Gurss
alfalfa	9000994	alfalfa	David Gurss
alfalfa	9000996	alfalfa	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
alfalfa	9000998	alfalfa	David Gurss
alfalfa	9001009	alfalfa	David Gurss
alfalfa	9001010	alfalfa	David Gurss
alfalfa	9001011	alfalfa	David Gurss
cattle farm	9000999	cattle farm	David Gurss
cattle feedlot	9000796	cattle feedlot	David Gurss
concentration of septic systems	9001001	concentration of houses on septic systems	David Gurss
corn field	9000972	corn field	David Gurss
farmstead	9000990	farmstead	David Gurss
farmstead	9001012	farmstead	David Gurss
greyhound farm	9000783	greyhound farm	David Gurss
greyhound farm	9000973	greyhound farm	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
mobile home park	9000933	mobile home park	David Gurss
onsite wastetwater system	9000746	onsite wastewater system	David Gurss
onsite wastewater system	9000741	onsite wastewater system	David Gurss
onsite wastewater system	9000742	onsite wastewater system	David Gurss
onsite wastewater system	9000743	onsite wastewater system	David Gurss
onsite wastewater system	9000744	onsite wastewater system	David Gurss
onsite wastewater system	9000745	onsite wastewater system	David Gurss
onsite wastewater system	9000747	onsite wastewater system	David Gurss
onsite wastewater system	9000748	onsite wastewater system	David Gurss
onsite wastewater system	9000749	onsite wastewater system	David Gurss
onsite wastewater system	9000750	onsite wastewater system	David Gurss
onsite wastewater system	9000751	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000752	onsite wastewater system	David Gurss
onsite wastewater system	9000753	onsite wastewater system	David Gurss
onsite wastewater system	9000754	onsite wastewater system	David Gurss
onsite wastewater system	9000755	onsite wastewater system	David Gurss
onsite wastewater system	9000756	onsite wastewater system	David Gurss
onsite wastewater system	9000757	onsite wastewater system	David Gurss
onsite wastewater system	9000758	onsite wastewater system	David Gurss
onsite wastewater system	9000759	onsite wastewater system	David Gurss
railroad track	9000779	railroad track	David Gurss
railroad track	9000781	railroad track	David Gurss
railroad track	9001008	railroad track	David Gurss
residential community	9000734	Concentration of homes (30 year-round and 20 seasonal) on individual onsite wastewater systems. Public water service from the Ci	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
rural residence	9000776	farmstead	David Gurss
rural residence	9000777	farmstead	David Gurss
rural residence	9000793	farmstead	David Gurss
septic	9000760	septic	David Gurss
septic	9000761	septic system	David Gurss
septic	9000762	septic system	David Gurss
septic system	9000763	septic system	David Gurss
septic system	9000764	septic system	David Gurss
septic system	9000780	septic system	David Gurss
septic system	9000784	septic system	David Gurss
septic system	9000785	septic system	David Gurss
septic system	9000786	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic system	9000787	septic system	David Gurss
septic system	9000789	septic system	David Gurss
septic system	9000791	septic system	David Gurss
septic system	9000794	septic system	David Gurss
septic system	9000974	septic system	David Gurss
septic system	9000983	septic system	David Gurss
septic system	9000984	septic system	David Gurss
septic system	9001006	septic system	David Gurss
septic sytem	9000790	septic system	David Gurss
sorghum	9000975	no-till sorghum	David Gurss
soybeans	9000995	soybeans	David Gurss
wheat	9000993	wheat	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
wheat field	9000982	wheat field	David Gurss

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**
Diversion Id's: **017**
Status: **Accepted**
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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1027**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**
Diversion Id's: **016,**
Status: **Accepted**
Submit Date: **2003-04-15 16:14:08**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	47	45	43	52	48	55
SLS Range	Low	Low	Low	Mid	Low	Mid

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**
Diversion Id's: **016,**
Status: **Accepted**
Submit Date: **2003-04-15 16:14:08**

Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195521	Dairy Farms	241	C
195596	Veterinary Services, Specialties	742	C
195363	Single-family Housing Construction	1521	C
195569	Single-family Housing Construction	1521	C
195662	Nonresidential Construction	1542	C
195307	Flour Mill and Other Food Grain Milling	2041	C
195597	Prepared Feeds For Animals and Fowls	2048	C
195350	Newspapers Publishing and Printing	2711	C
195419	Commercial Printing-Lithographic	2752	C
195304	Commercial Printing NEC	2759	C
195298	Farm Machinery and Equipment	3523	C
195379	Machinery, Except Electrical Manufacturing	3599	C
195380	Machinery, Except Electrical Manufacturing	3599	C
195424	Signs and Advertising Display Manufacturing	3993	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195589	Local Trucking, without Storage	4212	C
195502	Farm Product Warehousing and Storage	4221	C
195526	Farm Product Warehousing and Storage	4221	C
195631	Farm and Garden Machinery	5083	C
195327	Gasoline Service Station	5541	C
195531	Gasoline Service Station	5541	C
195539	Gasoline Service Station	5541	C
195552	Gasoline Service Station	5541	C
195558	Recreational Vehicle Parks and Campsites	7033	C
195520	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
195523	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
195309	Auto Truck Repair Service	7538	C
195332	Auto Truck Repair Service	7538	C
195428	Auto Truck Repair Service	7538	C
195524	Auto Truck Repair Service	7538	C
195525	Auto Truck Repair Service	7538	C
195562	Auto Truck Repair Service	7538	C
195574	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2001432	Reynolds Livestock	A-SHDK-BA44	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000021	Dickinson Co Courthouse	00101	C
3000091	Kooser Oil	01142	C
3000095	Robson Oil Co Inc	01156	C
3000096	Buds Tire	01159	C
3000266	Barber Service Station	03179	C
3000587	Clydes Quik Stop	06477	C
3000688	Ryder Truck Rental, Abilene	06878	C
3000799	Abilene, Park Maint Shop	07915	C
3000833	Cardie Oil, Abilene	08678	C
3000928	Jerry's Auto Service	10069	C
3000968	Boyd Brothers	12127	C
3001035	Everetts Inc	14208	C
3001074	Abilene Mini-mart	15599	C
3001195	Shouse Implement Co	20053	C
3001342	Bert Wetta Sales, Inc.	24012	C
3001497	Kerr-mcgee #6001	25605	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001595	Abilene Municipal Airport	26074	C
3001652	Eisenhower Center	26300	C
3002188	Vacublast	29033	C
3002335	Abilene Antique Plaza	29716	C
3002394	Abilene Energy Center	40065	C
3002416	Great Plains Manufacturing	41502	C
3002424	Chisholm Trail Antiques	42043	C
3002664	Affordable Transportation	81216	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000714	ABILENE PWS, VACUBLAST CORP.	C502100001	C
7000717	KANSAS POWER AND LIGHT, ABILENE	C502100178	C
7000723	FMGP – ABILENE	C502170043	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000714	City of Abilene	0692-S	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000208	V*B INTERIM, INC.	I-SH01-PO03	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6001689	ABILENE WWTP	M-SH01-OO01	C
6001691	ABILENE WWTP	M-SH01-OO01	C
6001692	ABILENE WWTP	M-SH01-OO01	C
6001694	ABILENE WWTP	M-SH01-OO01	C
6001695	ABILENE WWTP	M-SH01-OO01	C
6001696	ABILENE WWTP	M-SH01-OO01	C
6001697	ABILENE WWTP	M-SH01-OO01	C

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**
Diversion Id's: **016,**
Status: **Accepted**
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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000782	Dog track	10005	B
9000793	rural residence	10008	B
9000990	farmstead	10008	B
9000781	railroad track	10013	B
9000741	onsite wastewater system	10066	B
9000742	onsite wastewater system	10066	B
9000743	onsite wastewater system	10066	B
9000744	onsite wastewater system	10066	B
9000745	onsite wastewater system	10066	B
9000746	onsite wastetwater system	10066	B
9000747	onsite wastewater system	10066	B
9000748	onsite wastewater system	10066	B
9000749	onsite wastewater system	10066	B
9000750	onsite wastewater system	10066	B
9000751	onsite wastewater system	10066	B
9000752	onsite wastewater system	10066	B
9000753	onsite wastewater system	10066	B
9000754	onsite wastewater system	10066	B
9000755	onsite wastewater system	10066	B
9000759	onsite wastewater system	10066	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000760	septic	10067	B
9000761	septic	10067	B
9000762	septic	10067	B
9000763	septic system	10067	B
9000764	septic system	10067	B
9000780	septic system	10067	B
9000786	septic system	10067	B
9000790	septic sytem	10067	B
9000791	septic system	10067	B
9000974	septic system	10067	B
9000983	septic system	10067	B
9001006	septic system	10067	B
9000975	sorghum	10085	B
9000985	alfalfa	10086	B
9000987	alfalfa	10086	B
9000991	alfalfa	10086	B
9000994	alfalfa	10086	B
9000996	alfalfa	10086	B
9000998	alfalfa	10086	B
9001009	alfalfa	10086	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9001010	alfalfa	10086	B
9001011	alfalfa	10086	B
9000982	wheat field	111	B
9000972	corn field	115	B
9000995	soybeans	116	B
9000988	airport runway	4582	B
9000933	mobile home park	6515	B
9000973	greyhound farm	752	B
9001001	concentration of septic systems	0	C
9001012	farmstead	10008	C
9001008	railroad track	10013	C
9000756	onsite wastewater system	10066	C
9000757	onsite wastewater system	10066	C
9000758	onsite wastewater system	10066	C
9000787	septic system	10067	C
9000789	septic system	10067	C
9000794	septic system	10067	C
9000984	septic system	10067	C
9000986	alfalfa	10086	C
9000989	alfalfa	10086	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000993	wheat	111	C
9000999	cattle farm	211	C
9000783	greyhound farm	752	C

Public Water Supply: **ABILENE, CITY OF**
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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**

Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
7	2	28	5	23	5

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Public Water Supply: **ABILENE, CITY OF**
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Diversion Id's: **016,**
Status: **Accepted**
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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological	B – Inorganic Compounds	B1 – Eutrophication – Phosphorous
B2 – Sedimentation	B* – Nitrates	C – Synthetic Organic Compounds
C* – Pesticides	D – Volatile Organic Compounds	

Potential Contaminants Listing

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**

Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
2041	Flour Mill and Other Food Grain Milling	BOD, TSS	A
"	"	"	B
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
4212	Local Trucking, without Storage	VOCs	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
1542	Nonresidential Construction	Sedimentation	B2
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	A
"	"	"	B
"	"	"	B1
"	"	"	B*
"	"	"	C*
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	B
"	"	"	D

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2752	Commercial Printing-Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
241	Dairy Farms	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
241	Dairy Farms	Sanitary, fertilizers	B*
3523	Farm Machinery and Equipment	inorganics	B
"	"	"	D
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**
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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
2041	Flour Mill and Other Food Grain Milling	BOD, TSS	Wastewater pretreatment and/or discharge to a POTW	40 CFR 122 and State or federal Storm water pollution prevention regulations
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	Discharge to POTW. Minimize use of lawn chemicals	NA
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 459 and State or federal Storm water pollution prevention regulations
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28-48, KDHE, KDEM
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
241	Dairy Farms	Sanitary, fertilizers	Collect and treat process wastes. Use good erosion control practices. Minimize storm water contact with contaminants.	40 CFR 405
3523	Farm Machinery and Equipment	inorganics	Discharge to POTW	State or federal Storm water pollution prevention regulations
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	Maintain animal feeding areas and feed storage areas to minimize contact with storm water. Collect and treat process wastes.	40 CFR 412 and State or federal Storm water pollution prevention regulations

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **ABILENE, CITY OF**
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Ground Water Multiple Wells Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	No	1	1	1	1	1	1
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
11	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
12	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
13	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
14	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
15	Is there grazing livestock in Zone B?	No	0	0	0	0	0	0
16	Have all livestock producers implemented water quality protection measures?	Yes	0	0	0	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
24	Is there a railroad or major highway in Zone B or C?	No	0	0	0	0	0	0
25	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	Yes	1	1	1	1	1	1
29	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	Yes	1	1	1	1	1	1
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
33	Is there livestock confinement in Zone C?	No	0	0	0	0	0	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
37	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

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Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Reynolds Livestock	2001432	No livestock at this location. Reynolds had a sale barn 1/2 mile to the west but it's been closed for several years	David Gurss

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **ABILENE, CITY OF**
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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Dog track	9000782	greyhound track	David Gurss
airport runway	9000988	airport runway	David Gurss
alfalfa	9000985	alfalfa	David Gurss
alfalfa	9000986	alfalfa	David Gurss
alfalfa	9000987	alfalfa	David Gurss
alfalfa	9000989	alfalfa	David Gurss
alfalfa	9000991	alfalfa	David Gurss
alfalfa	9000994	alfalfa	David Gurss
alfalfa	9000996	alfalfa	David Gurss
alfalfa	9000998	alfalfa	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
alfalfa	9001009	alfalfa	David Gurss
alfalfa	9001010	alfalfa	David Gurss
alfalfa	9001011	alfalfa	David Gurss
cattle farm	9000999	cattle farm	David Gurss
concentration of septic systems	9001001	concentration of houses on septic systems	David Gurss
corn field	9000972	corn field	David Gurss
farmstead	9000990	farmstead	David Gurss
farmstead	9001012	farmstead	David Gurss
greyhound farm	9000783	greyhound farm	David Gurss
greyhound farm	9000973	greyhound farm	David Gurss
mobile home park	9000933	mobile home park	David Gurss
onsite wastewater system	9000746	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000741	onsite wastewater system	David Gurss
onsite wastewater system	9000742	onsite wastewater system	David Gurss
onsite wastewater system	9000743	onsite wastewater system	David Gurss
onsite wastewater system	9000744	onsite wastewater system	David Gurss
onsite wastewater system	9000745	onsite wastewater system	David Gurss
onsite wastewater system	9000747	onsite wastewater system	David Gurss
onsite wastewater system	9000748	onsite wastewater system	David Gurss
onsite wastewater system	9000749	onsite wastewater system	David Gurss
onsite wastewater system	9000750	onsite wastewater system	David Gurss
onsite wastewater system	9000751	onsite wastewater system	David Gurss
onsite wastewater system	9000752	onsite wastewater system	David Gurss
onsite wastewater system	9000753	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000754	onsite wastewater system	David Gurss
onsite wastewater system	9000755	onsite wastewater system	David Gurss
onsite wastewater system	9000756	onsite wastewater system	David Gurss
onsite wastewater system	9000757	onsite wastewater system	David Gurss
onsite wastewater system	9000758	onsite wastewater system	David Gurss
onsite wastewater system	9000759	onsite wastewater system	David Gurss
railroad track	9000781	railroad track	David Gurss
railroad track	9001008	railroad track	David Gurss
rural residence	9000793	farmstead	David Gurss
septic	9000760	septic	David Gurss
septic	9000761	septic system	David Gurss
septic	9000762	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic system	9000763	septic system	David Gurss
septic system	9000764	septic system	David Gurss
septic system	9000780	septic system	David Gurss
septic system	9000786	septic system	David Gurss
septic system	9000787	septic system	David Gurss
septic system	9000789	septic system	David Gurss
septic system	9000791	septic system	David Gurss
septic system	9000794	septic system	David Gurss
septic system	9000974	septic system	David Gurss
septic system	9000983	septic system	David Gurss
septic system	9000984	septic system	David Gurss
septic system	9001006	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic sytem	9000790	septic system	David Gurss
sorghum	9000975	no-till sorghum	David Gurss
soybeans	9000995	soybeans	David Gurss
wheat	9000993	wheat	David Gurss
wheat field	9000982	wheat field	David Gurss

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1028**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		

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Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **ABILENE, CITY OF**
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Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	38	35	37	36	39	34
SLS Range	Low	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **ABILENE, CITY OF**
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Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195659	Cattle Farm	211	C
195662	Nonresidential Construction	1542	C
195589	Local Trucking, without Storage	4212	C
195671	Farm and Garden Machinery	5083	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000266	Barber Service Station	03179	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001035	Everetts Inc	14208	C

Regulated Identified Contaminated Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000883	ABILENE WTF PLANT	I-SH01-PO04	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000734	residential community	0	B
9000782	Dog track	10005	B
9000776	rural residence	10008	B
9000777	rural residence	10008	B
9000793	rural residence	10008	B
9000990	farmstead	10008	B
9000779	railroad track	10013	B
9000781	railroad track	10013	B
9000741	onsite wastewater system	10066	B
9000742	onsite wastewater system	10066	B
9000743	onsite wastewater system	10066	B
9000744	onsite wastewater system	10066	B
9000745	onsite wastewater system	10066	B
9000746	onsite wastetwater system	10066	B
9000747	onsite wastewater system	10066	B
9000748	onsite wastewater system	10066	B
9000749	onsite wastewater system	10066	B
9000750	onsite wastewater system	10066	B
9000751	onsite wastewater system	10066	B
9000752	onsite wastewater system	10066	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000753	onsite wastewater system	10066	B
9000754	onsite wastewater system	10066	B
9000755	onsite wastewater system	10066	B
9000759	onsite wastewater system	10066	B
9000760	septic	10067	B
9000761	septic	10067	B
9000762	septic	10067	B
9000763	septic system	10067	B
9000764	septic system	10067	B
9000767	septic system	10067	B
9000769	septic system	10067	B
9000771	septic system	10067	B
9000774	septic system	10067	B
9000778	septic system	10067	B
9000780	septic system	10067	B
9000784	septic system	10067	B
9000785	septic system	10067	B
9000786	septic system	10067	B
9000790	septic sytem	10067	B
9000791	septic system	10067	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000974	septic system	10067	B
9000983	septic system	10067	B
9001006	septic system	10067	B
9000975	sorghum	10085	B
9000985	alfalfa	10086	B
9000987	alfalfa	10086	B
9000991	alfalfa	10086	B
9000994	alfalfa	10086	B
9000996	alfalfa	10086	B
9000998	alfalfa	10086	B
9001009	alfalfa	10086	B
9001010	alfalfa	10086	B
9001011	alfalfa	10086	B
9000982	wheat field	111	B
9000972	corn field	115	B
9000995	soybeans	116	B
9000735	abandoned feedlot	2048	B
9000930	abandoned feedlot	2048	B
9000931	abandoned feedlot	2048	B
9000932	abandoned feedlot	2048	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000988	airport runway	4582	B
9000933	mobile home park	6515	B
9000768	greyhound farm	752	B
9000770	greyhound farm	752	B
9000773	greyhound farm	752	B
9000973	greyhound farm	752	B
9001001	concentration of septic systems	0	C
9001012	farmstead	10008	C
9001008	railroad track	10013	C
9000795	salvage yard	10015	C
9000756	onsite wastewater system	10066	C
9000757	onsite wastewater system	10066	C
9000758	onsite wastewater system	10066	C
9000772	septic system	10067	C
9000775	septic system	10067	C
9000787	septic system	10067	C
9000789	septic system	10067	C
9000794	septic system	10067	C
9000971	septic system	10067	C
9000984	septic system	10067	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000986	alfalfa	10086	C
9000989	alfalfa	10086	C
9000993	wheat	111	C
9000796	cattle feedlot	2048	C
9000797	swine facility	2048	C
9000798	cattle feedlot	2048	C
9000999	cattle farm	211	C
9000737	dog kennel	752	C
9000783	greyhound farm	752	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **ABILENE, CITY OF**
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
1	1	2	0	1	1

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological	B – Inorganic Compounds	B1 – Eutrophication – Phosphorous
B2 – Sedimentation	B* – Nitrates	C – Synthetic Organic Compounds
C* – Pesticides	D – Volatile Organic Compounds	

Potential Contaminants Listing

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1029**

Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
4212	Local Trucking, without Storage	VOCs	D
1542	Nonresidential Construction	Sedimentation	B2
5083	Farm and Garden Machinery	inorganics	B

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **ABILENE, CITY OF**
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Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas. Proper Waste Management and Grazing Management.	KDHE–Livestock Waste Management Section, KAR 28–16, KDA, County Soil Conservation District, NRCS
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **ABILENE, CITY OF**
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Ground Water Single Well Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is the well under the influence of surface water?	No	0	0	0	0	0	0
2	Does the well meet KS water well construction standards?	Yes	0	0	0	0	0	0
3	Is the depth of the well less than 30 feet?	No	0	0	0	0	0	0
4	Are there unplugged, abandoned water wells present in Zone A?	No	0	0	0	0	0	0
5	Is there gravel pack within 20 feet of the surface?	No	0	0	0	0	0	0
6	Does a PWS own or control Zone A?	No	1	1	1	1	1	1
7	Does Zone A consist entirely of native grass?	No	1	1	1	1	1	1
8	Is there a contaminated well in the Zone A?	No	0	0	0	0	0	0
9	Is a class V UIC well present?	No	0	0	0	0	0	0
10	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
11	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
12	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
13	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
14	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
15	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
16	Does Zone B consist entirely of native grass?	No	1	1	1	1	1	1
17	Is there grazing livestock in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
19	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0
20	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
21	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
22	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are any orchards present in Zone B?	No	0	0	0	0	0	0
24	Are orchard nutrient and pesticide plans in use for each site?	Yes	0	0	0	0	0	0
25	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
26	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
27	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
28	Do coarse textured soils predominate Zones A, B and C?	No	0	0	0	0	0	0
29	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
30	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
31	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
32	Are there unplugged, abandoned water wells present in Zone B or C?	Yes	1	0	0	0	0	0
33	Are any commercial, industrial, or urban areas present in Zone C?	Yes	1	1	1	1	1	1
34	Are water quality protection plans in use for each site/area?	No	1	1	1	1	1	1
35	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
36	Is each confined livestock facility registered with KDHE?	No	1	1	1	0	1	0
37	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
38	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
39	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
40	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
41	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **ABILENE, CITY OF**
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Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
195659	There have been no cattle at this feedlot for about one year.	David Gurss

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **ABILENE, CITY OF**
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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Dog track	9000782	greyhound track	David Gurss
abandoned feedlot	9000735	abandoned feedlot	David Gurss
abandoned feedlot	9000930	abandoned feedlot	David Gurss
abandoned feedlot	9000931	abandoned feedlot	David Gurss
abandoned feedlot	9000932	abandoned feedlot	David Gurss
airport runway	9000988	airport runway	David Gurss
alfalfa	9000985	alfalfa	David Gurss
alfalfa	9000986	alfalfa	David Gurss
alfalfa	9000987	alfalfa	David Gurss
alfalfa	9000989	alfalfa	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
alfalfa	9000991	alfalfa	David Gurss
alfalfa	9000994	alfalfa	David Gurss
alfalfa	9000996	alfalfa	David Gurss
alfalfa	9000998	alfalfa	David Gurss
alfalfa	9001009	alfalfa	David Gurss
alfalfa	9001010	alfalfa	David Gurss
alfalfa	9001011	alfalfa	David Gurss
cattle farm	9000999	cattle farm	David Gurss
cattle feedlot	9000796	cattle feedlot	David Gurss
cattle feedlot	9000798	cattle feedlot	David Gurss
concentration of septic systems	9001001	concentration of houses on septic systems	David Gurss
corn field	9000972	corn field	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
dog kennel	9000737	Concentration of several greyhound farms. All residences use onsite wastewater systems and private water wells.	David Gurss
farmstead	9000990	farmstead	David Gurss
farmstead	9001012	farmstead	David Gurss
greyhound farm	9000768	greyhound farm	David Gurss
greyhound farm	9000770	greyhound farm	David Gurss
greyhound farm	9000773	greyhound farm	David Gurss
greyhound farm	9000783	greyhound farm	David Gurss
greyhound farm	9000973	greyhound farm	David Gurss
mobile home park	9000933	mobile home park	David Gurss
onsite wastewater system	9000746	onsite wastewater system	David Gurss
onsite wastewater system	9000741	onsite wastewater system	David Gurss
onsite wastewater system	9000742	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000743	onsite wastewater system	David Gurss
onsite wastewater system	9000744	onsite wastewater system	David Gurss
onsite wastewater system	9000745	onsite wastewater system	David Gurss
onsite wastewater system	9000747	onsite wastewater system	David Gurss
onsite wastewater system	9000748	onsite wastewater system	David Gurss
onsite wastewater system	9000749	onsite wastewater system	David Gurss
onsite wastewater system	9000750	onsite wastewater system	David Gurss
onsite wastewater system	9000751	onsite wastewater system	David Gurss
onsite wastewater system	9000752	onsite wastewater system	David Gurss
onsite wastewater system	9000753	onsite wastewater system	David Gurss
onsite wastewater system	9000754	onsite wastewater system	David Gurss
onsite wastewater system	9000755	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000756	onsite wastewater system	David Gurss
onsite wastewater system	9000757	onsite wastewater system	David Gurss
onsite wastewater system	9000758	onsite wastewater system	David Gurss
onsite wastewater system	9000759	onsite wastewater system	David Gurss
railroad track	9000779	railroad track	David Gurss
railroad track	9000781	railroad track	David Gurss
railroad track	9001008	railroad track	David Gurss
residential community	9000734	Concentration of homes (30 year-round and 20 seasonal) on individual onsite wastewater systems. Public water service from the Ci	David Gurss
rural residence	9000776	farmstead	David Gurss
rural residence	9000777	farmstead	David Gurss
rural residence	9000793	farmstead	David Gurss
salvage yard	9000795	salvage yard (10 acres)	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic	9000760	septic	David Gurss
septic	9000761	septic system	David Gurss
septic	9000762	septic system	David Gurss
septic system	9000763	septic system	David Gurss
septic system	9000764	septic system	David Gurss
septic system	9000767	septic system	David Gurss
septic system	9000769	septic system	David Gurss
septic system	9000771	septic system	David Gurss
septic system	9000772	septic system	David Gurss
septic system	9000774	septic system	David Gurss
septic system	9000775	septic system	David Gurss
septic system	9000778	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic system	9000780	septic system	David Gurss
septic system	9000784	septic system	David Gurss
septic system	9000785	septic system	David Gurss
septic system	9000786	septic system	David Gurss
septic system	9000787	septic system	David Gurss
septic system	9000789	septic system	David Gurss
septic system	9000791	septic system	David Gurss
septic system	9000794	septic system	David Gurss
septic system	9000971	septic system	David Gurss
septic system	9000974	septic system	David Gurss
septic system	9000983	septic system	David Gurss
septic system	9000984	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic system	9001006	septic system	David Gurss
septic sytem	9000790	septic system	David Gurss
sorghum	9000975	no-till sorghum	David Gurss
soybeans	9000995	soybeans	David Gurss
swine facility	9000797	swine facility	David Gurss
wheat	9000993	wheat	David Gurss
wheat field	9000982	wheat field	David Gurss

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

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Comments for Analysis Questions

Analysis Question	Question Comments	Author
Are watershed water quality protection plans in place?	Sand Springs Aquifer Protection Project	David Gurss

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Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **ABILENE, CITY OF**
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Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	57	45	48	44	42	42
SLS Range	Mid	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **ABILENE, CITY OF**
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Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195659	Cattle Farm	211	C
199519	Cattle Farm	211	C
195655	Animal Specialty Services	752	C
195660	Animal Specialty Services	752	C
195662	Nonresidential Construction	1542	C
195671	Farm and Garden Machinery	5083	C
199520	Farm and Garden Machinery	5083	C
199522	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2001897	Peterson, Arden	A-SHDK-B017	C
2002241	Wood, Harvey	A-SHDK-BA04	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3002632	Stuckey's (former)	81134	C

Regulated Identified Contaminated Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000883	ABILENE WTF PLANT	I-SH01-PO04	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **ABILENE, CITY OF**
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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000734	residential community	0	B
9000782	Dog track	10005	B
9000776	rural residence	10008	B
9000777	rural residence	10008	B
9000793	rural residence	10008	B
9000779	railroad track	10013	B
9000781	railroad track	10013	B
9000354	Old Windmill	10029	B
9000201	rural residence	10066	B
9000202	rural residence	10066	B
9000336	rural residence	10066	B
9000741	onsite wastewater system	10066	B
9000742	onsite wastewater system	10066	B
9000743	onsite wastewater system	10066	B
9000744	onsite wastewater system	10066	B
9000745	onsite wastewater system	10066	B
9000746	onsite wastetwater system	10066	B
9000747	onsite wastewater system	10066	B
9000748	onsite wastewater system	10066	B
9000749	onsite wastewater system	10066	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000750	onsite wastewater system	10066	B
9000751	onsite wastewater system	10066	B
9000752	onsite wastewater system	10066	B
9000753	onsite wastewater system	10066	B
9000754	onsite wastewater system	10066	B
9000755	onsite wastewater system	10066	B
9000761	septic	10067	B
9000762	septic	10067	B
9000763	septic system	10067	B
9000764	septic system	10067	B
9000767	septic system	10067	B
9000769	septic system	10067	B
9000771	septic system	10067	B
9000774	septic system	10067	B
9000778	septic system	10067	B
9000780	septic system	10067	B
9000784	septic system	10067	B
9000785	septic system	10067	B
9000786	septic system	10067	B
9000790	septic sytem	10067	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000791	septic system	10067	B
9000974	septic system	10067	B
9001006	septic system	10067	B
9000975	sorghum	10085	B
9000994	alfalfa	10086	B
9000996	alfalfa	10086	B
9000998	alfalfa	10086	B
9001009	alfalfa	10086	B
9001010	alfalfa	10086	B
9001011	alfalfa	10086	B
9000972	corn field	115	B
9000735	abandoned feedlot	2048	B
9000930	abandoned feedlot	2048	B
9000931	abandoned feedlot	2048	B
9000932	abandoned feedlot	2048	B
9000933	mobile home park	6515	B
9000008	dog kennel	752	B
9000768	greyhound farm	752	B
9000770	greyhound farm	752	B
9000773	greyhound farm	752	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000973	greyhound farm	752	B
9001001	concentration of septic systems	0	C
9001012	farmstead	10008	C
9001008	railroad track	10013	C
9000795	salvage yard	10015	C
9000353	Interstate 70	10036	C
9000271	rural residence	10066	C
9000304	rural residence	10066	C
9000756	onsite wastewater system	10066	C
9000757	onsite wastewater system	10066	C
9000772	septic system	10067	C
9000775	septic system	10067	C
9000787	septic system	10067	C
9000789	septic system	10067	C
9000794	septic system	10067	C
9000971	septic system	10067	C
9000993	wheat	111	C
9000796	cattle feedlot	2048	C
9000797	swine facility	2048	C
9000798	cattle feedlot	2048	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000999	cattle farm	211	C
9000737	dog kennel	752	C
9000783	greyhound farm	752	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: ABILENE, CITY OF
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
4	2	7	0	1	4

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological	B – Inorganic Compounds	B1 – Eutrophication – Phosphorous
B2 – Sedimentation	B* – Nitrates	C – Synthetic Organic Compounds
C* – Pesticides	D – Volatile Organic Compounds	

Potential Contaminants Listing

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1080**

Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
1542	Nonresidential Construction	Sedimentation	B2
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
5083	Farm and Garden Machinery	inorganics	B

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1080**
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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1080**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas. Proper Waste Management and Grazing Management.	KDHE–Livestock Waste Management Section, KAR 28–16, KDA, County Soil Conservation District, NRCS
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1080**

Ground Water Multiple Wells Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	Yes	1	1	1	1	1	1
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	No	1	1	1	1	1	1
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
11	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
12	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
13	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
14	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	1	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	No	0	0	0	0	0	0
28	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
29	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	No	0	0	0	0	0	0
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
33	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
34	Is each confined livestock facility registered with KDHE?	No	1	1	1	0	1	0
35	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
36	Are cropland nutrient management plans in place?	Yes	0	0	0	0	0	0
37	Are cropland pesticide management plans in place?	Yes	0	0	0	0	0	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1080**

Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
195659	There have been no cattle at this feedlot for about one year.	David Gurss
199519	Move feedlot 1/4 mile West	Pat Bowell

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1080**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Dog track	9000782	greyhound track	David Gurss
Interstate 70	9000353	Heavy interstate vehicular traffic	Pat Howell
Old Windmill	9000354	Old windmill	Pat Howell
abandoned feedlot	9000735	abandoned feedlot	David Gurss
abandoned feedlot	9000930	abandoned feedlot	David Gurss
abandoned feedlot	9000931	abandoned feedlot	David Gurss
abandoned feedlot	9000932	abandoned feedlot	David Gurss
alfalfa	9000994	alfalfa	David Gurss
alfalfa	9000996	alfalfa	David Gurss
alfalfa	9000998	alfalfa	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
alfalfa	9001009	alfalfa	David Gurss
alfalfa	9001010	alfalfa	David Gurss
alfalfa	9001011	alfalfa	David Gurss
cattle farm	9000999	cattle farm	David Gurss
cattle feedlot	9000796	cattle feedlot	David Gurss
cattle feedlot	9000798	cattle feedlot	David Gurss
concentration of septic systems	9001001	concentration of houses on septic systems	David Gurss
corn field	9000972	corn field	David Gurss
dog kennel	9000008	greyhound farm and house	David Gurss
dog kennel	9000737	Concentration of several greyhound farms. All residences use onsite wastewater systems and private water wells.	David Gurss
farmstead	9001012	farmstead	David Gurss
greyhound farm	9000768	greyhound farm	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
greyhound farm	9000770	greyhound farm	David Gurss
greyhound farm	9000773	greyhound farm	David Gurss
greyhound farm	9000783	greyhound farm	David Gurss
greyhound farm	9000973	greyhound farm	David Gurss
mobile home park	9000933	mobile home park	David Gurss
onsite wastetwater system	9000746	onsite wastewater system	David Gurss
onsite wastewater system	9000741	onsite wastewater system	David Gurss
onsite wastewater system	9000742	onsite wastewater system	David Gurss
onsite wastewater system	9000743	onsite wastewater system	David Gurss
onsite wastewater system	9000744	onsite wastewater system	David Gurss
onsite wastewater system	9000745	onsite wastewater system	David Gurss
onsite wastewater system	9000747	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000748	onsite wastewater system	David Gurss
onsite wastewater system	9000749	onsite wastewater system	David Gurss
onsite wastewater system	9000750	onsite wastewater system	David Gurss
onsite wastewater system	9000751	onsite wastewater system	David Gurss
onsite wastewater system	9000752	onsite wastewater system	David Gurss
onsite wastewater system	9000753	onsite wastewater system	David Gurss
onsite wastewater system	9000754	onsite wastewater system	David Gurss
onsite wastewater system	9000755	onsite wastewater system	David Gurss
onsite wastewater system	9000756	onsite wastewater system	David Gurss
onsite wastewater system	9000757	onsite wastewater system	David Gurss
railroad track	9000779	railroad track	David Gurss
railroad track	9000781	railroad track	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
railroad track	9001008	railroad track	David Gurss
residential community	9000734	Concentration of homes (30 year-round and 20 seasonal) on individual onsite wastewater systems. Public water service from the Ci	David Gurss
rural residence	9000201	on-site wastewater; private water well	David Gurss
rural residence	9000202	onsite wastewater system and private water well	David Gurss
rural residence	9000271	onsite wastewater system and private water well	David Gurss
rural residence	9000304	onsite wastewater system and private water well	David Gurss
rural residence	9000336	On site wastewater system and private water well	Pat Bowell
rural residence	9000776	farmstead	David Gurss
rural residence	9000777	farmstead	David Gurss
rural residence	9000793	farmstead	David Gurss
salvage yard	9000795	salvage yard (10 acres)	David Gurss
septic	9000761	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic	9000762	septic system	David Gurss
septic system	9000763	septic system	David Gurss
septic system	9000764	septic system	David Gurss
septic system	9000767	septic system	David Gurss
septic system	9000769	septic system	David Gurss
septic system	9000771	septic system	David Gurss
septic system	9000772	septic system	David Gurss
septic system	9000774	septic system	David Gurss
septic system	9000775	septic system	David Gurss
septic system	9000778	septic system	David Gurss
septic system	9000780	septic system	David Gurss
septic system	9000784	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic system	9000785	septic system	David Gurss
septic system	9000786	septic system	David Gurss
septic system	9000787	septic system	David Gurss
septic system	9000789	septic system	David Gurss
septic system	9000791	septic system	David Gurss
septic system	9000794	septic system	David Gurss
septic system	9000971	septic system	David Gurss
septic system	9000974	septic system	David Gurss
septic system	9001006	septic system	David Gurss
septic sytem	9000790	septic system	David Gurss
sorghum	9000975	no-till sorghum	David Gurss
swine facility	9000797	swine facility	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
wheat	9000993	wheat	David Gurss

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1080**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Are there unplugged, abandoned water wells present in Zone C?	We assume there are unplugged abandoned wells given the large area in Zone C.	David Gurss
Are cropland nutrient management plans in place?	The Sand Springs area was an EQIP priority area — over 80% of the crop and range land are enrolled.	David Gurss

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Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1081**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	50	45	45	44	45	42
SLS Range	Low	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **ABILENE, CITY OF**
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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1081**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195521	Dairy Farms	241	C
195596	Veterinary Services, Specialties	742	C
195569	Single-family Housing Construction	1521	C
195662	Nonresidential Construction	1542	C
195597	Prepared Feeds For Animals and Fowls	2048	C
195350	Newspapers Publishing and Printing	2711	C
195419	Commercial Printing-Lithographic	2752	C
195298	Farm Machinery and Equipment	3523	C
195379	Machinery, Except Electrical Manufacturing	3599	C
195380	Machinery, Except Electrical Manufacturing	3599	C
195589	Local Trucking, without Storage	4212	C
195526	Farm Product Warehousing and Storage	4221	C
195539	Gasoline Service Station	5541	C
195520	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
195523	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195309	Auto Truck Repair Service	7538	C
195524	Auto Truck Repair Service	7538	C
195525	Auto Truck Repair Service	7538	C
195574	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2001432	Reynolds Livestock	A-SHDK-BA44	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000266	Barber Service Station	03179	C
3000688	Ryder Truck Rental, Abilene	06878	C
3000968	Boyd Brothers	12127	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001035	Everetts Inc	14208	C
3001074	Abilene Mini--mart	15599	C
3001595	Abilene Municipal Airport	26074	C
3002188	Vacublast	29033	C
3002335	Abilene Antique Plaza	29716	C
3002416	Great Plains Manufacturing	41502	C
3002632	Stuckey's (former)	81134	C
3002664	Affordable Transportation	81216	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000714	ABILENE PWS, VACUBLAST CORP.	C502100001	C
7000723	FMGP – ABILENE	C502170043	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000714	City of Abilene	0692–S	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000208	V*B INTERIM, INC.	I-SH01–PO03	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000883	ABILENE WTF PLANT	I-SH01-PO04	C
6001695	ABILENE WWTP	M-SH01-OO01	C
6001697	ABILENE WWTP	M-SH01-OO01	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1081**

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000734	residential community	0	B
9000782	Dog track	10005	B
9000776	rural residence	10008	B
9000777	rural residence	10008	B
9000793	rural residence	10008	B
9000990	farmstead	10008	B
9000779	railroad track	10013	B
9000781	railroad track	10013	B
9000741	onsite wastewater system	10066	B
9000742	onsite wastewater system	10066	B
9000743	onsite wastewater system	10066	B
9000744	onsite wastewater system	10066	B
9000745	onsite wastewater system	10066	B
9000746	onsite wastetwater system	10066	B
9000747	onsite wastewater system	10066	B
9000748	onsite wastewater system	10066	B
9000749	onsite wastewater system	10066	B
9000750	onsite wastewater system	10066	B
9000751	onsite wastewater system	10066	B
9000752	onsite wastewater system	10066	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000753	onsite wastewater system	10066	B
9000754	onsite wastewater system	10066	B
9000755	onsite wastewater system	10066	B
9000759	onsite wastewater system	10066	B
9000760	septic	10067	B
9000761	septic	10067	B
9000762	septic	10067	B
9000763	septic system	10067	B
9000764	septic system	10067	B
9000778	septic system	10067	B
9000780	septic system	10067	B
9000784	septic system	10067	B
9000785	septic system	10067	B
9000786	septic system	10067	B
9000790	septic sytem	10067	B
9000791	septic system	10067	B
9000974	septic system	10067	B
9000983	septic system	10067	B
9001006	septic system	10067	B
9000975	sorghum	10085	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000985	alfalfa	10086	B
9000987	alfalfa	10086	B
9000991	alfalfa	10086	B
9000994	alfalfa	10086	B
9000996	alfalfa	10086	B
9000998	alfalfa	10086	B
9001009	alfalfa	10086	B
9001010	alfalfa	10086	B
9001011	alfalfa	10086	B
9000982	wheat field	111	B
9000972	corn field	115	B
9000995	soybeans	116	B
9000735	abandoned feedlot	2048	B
9000930	abandoned feedlot	2048	B
9000931	abandoned feedlot	2048	B
9000932	abandoned feedlot	2048	B
9000988	airport runway	4582	B
9000933	mobile home park	6515	B
9000973	greyhound farm	752	B
9001001	concentration of septic systems	0	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9001012	farmstead	10008	C
9001008	railroad track	10013	C
9000795	salvage yard	10015	C
9000756	onsite wastewater system	10066	C
9000757	onsite wastewater system	10066	C
9000758	onsite wastewater system	10066	C
9000787	septic system	10067	C
9000789	septic system	10067	C
9000794	septic system	10067	C
9000971	septic system	10067	C
9000984	septic system	10067	C
9000986	alfalfa	10086	C
9000989	alfalfa	10086	C
9000993	wheat	111	C
9000796	cattle feedlot	2048	C
9000797	swine facility	2048	C
9000798	cattle feedlot	2048	C
9000999	cattle farm	211	C
9000783	greyhound farm	752	C
9000799	Country Club golf course	7992	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1081**

Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
4	1	16	3	14	3

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Public Water Supply: **ABILENE, CITY OF**
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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **ABILENE, CITY OF**
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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
4212	Local Trucking, without Storage	VOCs	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
1542	Nonresidential Construction	Sedimentation	B2
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
241	Dairy Farms	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
3523	Farm Machinery and Equipment	inorganics	B
"	"	"	D
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	A
"	"	"	B
"	"	"	B1
"	"	"	B2

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	B*
"	"	"	C*

Public Water Supply: **ABILENE, CITY OF**
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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1081**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
1521	Single–family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
241	Dairy Farms	Sanitary, fertilizers	Collect and treat process wastes. Use good erosion control practices. Minimize storm water contact with contaminants.	40 CFR 405
3523	Farm Machinery and Equipment	inorganics	Discharge to POTW	State or federal Storm water pollution prevention regulations
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	Maintain animal feeding areas and feed storage areas to minimize contact with storm water. Collect and treat process wastes.	40 CFR 412 and State or federal Storm water pollution prevention regulations

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1081**

Ground Water Single Well Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is the well under the influence of surface water?	No	0	0	0	0	0	0
2	Does the well meet KS water well construction standards?	Yes	0	0	0	0	0	0
3	Is the depth of the well less than 30 feet?	No	0	0	0	0	0	0
4	Are there unplugged, abandoned water wells present in Zone A?	No	0	0	0	0	0	0
5	Is there gravel pack within 20 feet of the surface?	No	0	0	0	0	0	0
6	Does a PWS own or control Zone A?	No	1	1	1	1	1	1
7	Does Zone A consist entirely of native grass?	No	1	1	1	1	1	1
8	Is there a contaminated well in the Zone A?	No	0	0	0	0	0	0
9	Is a class V UIC well present?	No	0	0	0	0	0	0
10	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
11	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
12	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
13	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
14	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
15	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
16	Does Zone B consist entirely of native grass?	No	1	1	1	1	1	1
17	Is there grazing livestock in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
19	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0
20	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
21	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
22	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are any orchards present in Zone B?	No	0	0	0	0	0	0
24	Are orchard nutrient and pesticide plans in use for each site?	Yes	0	0	0	0	0	0
25	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	1	0	0	0
26	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
27	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
28	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
29	Is an irrigation well located in Zone B or C?	No	0	0	0	0	0	0
30	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
31	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
32	Are there unplugged, abandoned water wells present in Zone B or C?	Yes	1	0	0	0	0	0
33	Are any commercial, industrial, or urban areas present in Zone C?	Yes	1	1	1	1	1	1
34	Are water quality protection plans in use for each site/area?	No	1	1	1	1	1	1
35	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
36	Is each confined livestock facility registered with KDHE?	No	1	1	1	0	1	0
37	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
38	Are cropland nutrient management plans in place?	Yes	0	0	0	0	0	0
39	Are cropland pesticide management plans in place?	Yes	0	0	0	0	0	0
40	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
41	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **ABILENE, CITY OF**
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Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Reynolds Livestock	2001432	No livestock at this location. Reynolds had a sale barn 1/2 mile to the west but it's been closed for several years	David Gurss

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **ABILENE, CITY OF**
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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Country Club golf course	9000799	golf course	David Gurss
Dog track	9000782	greyhound track	David Gurss
abandoned feedlot	9000735	abandoned feedlot	David Gurss
abandoned feedlot	9000930	abandoned feedlot	David Gurss
abandoned feedlot	9000931	abandoned feedlot	David Gurss
abandoned feedlot	9000932	abandoned feedlot	David Gurss
airport runway	9000988	airport runway	David Gurss
alfalfa	9000985	alfalfa	David Gurss
alfalfa	9000986	alfalfa	David Gurss
alfalfa	9000987	alfalfa	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
alfalfa	9000989	alfalfa	David Gurss
alfalfa	9000991	alfalfa	David Gurss
alfalfa	9000994	alfalfa	David Gurss
alfalfa	9000996	alfalfa	David Gurss
alfalfa	9000998	alfalfa	David Gurss
alfalfa	9001009	alfalfa	David Gurss
alfalfa	9001010	alfalfa	David Gurss
alfalfa	9001011	alfalfa	David Gurss
cattle farm	9000999	cattle farm	David Gurss
cattle feedlot	9000796	cattle feedlot	David Gurss
cattle feedlot	9000798	cattle feedlot	David Gurss
concentration of septic systems	9001001	concentration of houses on septic systems	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
corn field	9000972	corn field	David Gurss
farmstead	9000990	farmstead	David Gurss
farmstead	9001012	farmstead	David Gurss
greyhound farm	9000783	greyhound farm	David Gurss
greyhound farm	9000973	greyhound farm	David Gurss
mobile home park	9000933	mobile home park	David Gurss
onsite wastetwater system	9000746	onsite wastewater system	David Gurss
onsite wastewater system	9000741	onsite wastewater system	David Gurss
onsite wastewater system	9000742	onsite wastewater system	David Gurss
onsite wastewater system	9000743	onsite wastewater system	David Gurss
onsite wastewater system	9000744	onsite wastewater system	David Gurss
onsite wastewater system	9000745	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000747	onsite wastewater system	David Gurss
onsite wastewater system	9000748	onsite wastewater system	David Gurss
onsite wastewater system	9000749	onsite wastewater system	David Gurss
onsite wastewater system	9000750	onsite wastewater system	David Gurss
onsite wastewater system	9000751	onsite wastewater system	David Gurss
onsite wastewater system	9000752	onsite wastewater system	David Gurss
onsite wastewater system	9000753	onsite wastewater system	David Gurss
onsite wastewater system	9000754	onsite wastewater system	David Gurss
onsite wastewater system	9000755	onsite wastewater system	David Gurss
onsite wastewater system	9000756	onsite wastewater system	David Gurss
onsite wastewater system	9000757	onsite wastewater system	David Gurss
onsite wastewater system	9000758	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000759	onsite wastewater system	David Gurss
railroad track	9000779	railroad track	David Gurss
railroad track	9000781	railroad track	David Gurss
railroad track	9001008	railroad track	David Gurss
residential community	9000734	Concentration of homes (30 year-round and 20 seasonal) on individual onsite wastewater systems. Public water service from the Ci	David Gurss
rural residence	9000776	farmstead	David Gurss
rural residence	9000777	farmstead	David Gurss
rural residence	9000793	farmstead	David Gurss
salvage yard	9000795	salvage yard (10 acres)	David Gurss
septic	9000760	septic	David Gurss
septic	9000761	septic system	David Gurss
septic	9000762	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic system	9000763	septic system	David Gurss
septic system	9000764	septic system	David Gurss
septic system	9000778	septic system	David Gurss
septic system	9000780	septic system	David Gurss
septic system	9000784	septic system	David Gurss
septic system	9000785	septic system	David Gurss
septic system	9000786	septic system	David Gurss
septic system	9000787	septic system	David Gurss
septic system	9000789	septic system	David Gurss
septic system	9000791	septic system	David Gurss
septic system	9000794	septic system	David Gurss
septic system	9000971	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic system	9000974	septic system	David Gurss
septic system	9000983	septic system	David Gurss
septic system	9000984	septic system	David Gurss
septic system	9001006	septic system	David Gurss
septic sytem	9000790	septic system	David Gurss
sorghum	9000975	no-till sorghum	David Gurss
soybeans	9000995	soybeans	David Gurss
swine facility	9000797	swine facility	David Gurss
wheat	9000993	wheat	David Gurss
wheat field	9000982	wheat field	David Gurss

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **ABILENE, CITY OF**
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Comments for Analysis Questions

Analysis Question	Question Comments	Author
Are cropland nutrient management plans in place?	Over 80% of cropland in the Sand Springs area is in EQIP, which requires nutrient management plans.	David Gurss
Are watershed water quality protection plans in place?	Sand Springs Aquifer Protection Project	David Gurss

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Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1082**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	57	42	48	40	42	38
SLS Range	Mid	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1082**
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Status: **Accepted**
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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1082**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195662	Nonresidential Construction	1542	B
195659	Cattle Farm	211	C
195596	Veterinary Services, Specialties	742	C
195660	Animal Specialty Services	752	C
195569	Single-family Housing Construction	1521	C
195597	Prepared Feeds For Animals and Fowls	2048	C
195298	Farm Machinery and Equipment	3523	C
195589	Local Trucking, without Storage	4212	C
195671	Farm and Garden Machinery	5083	C
195574	Auto Truck Repair Service	7538	C
195656	Golf Course	7992	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2001432	Reynolds Livestock	A-SHDK-BA44	C
2002241	Wood, Harvey	A-SHDK-BA04	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000266	Barber Service Station	03179	C
3000688	Ryder Truck Rental, Abilene	06878	C
3001035	Everetts Inc	14208	C
3001074	Abilene Mini-mart	15599	C
3001595	Abilene Municipal Airport	26074	C
3002188	Vacublast	29033	C
3002416	Great Plains Manufacturing	41502	C
3002632	Stuckey's (former)	81134	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000714	ABILENE PWS, VACUBLAST CORP.	C502100001	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000714	City of Abilene	0692-S	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000208	V*B INTERIM, INC.	I-SH01-PO03	C
6000883	ABILENE WTF PLANT	I-SH01-PO04	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **ABILENE, CITY OF**
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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000734	residential community	0	B
9000782	Dog track	10005	B
9000776	rural residence	10008	B
9000777	rural residence	10008	B
9000793	rural residence	10008	B
9000990	farmstead	10008	B
9000779	railroad track	10013	B
9000781	railroad track	10013	B
9000741	onsite wastewater system	10066	B
9000742	onsite wastewater system	10066	B
9000743	onsite wastewater system	10066	B
9000744	onsite wastewater system	10066	B
9000745	onsite wastewater system	10066	B
9000746	onsite wastetwater system	10066	B
9000747	onsite wastewater system	10066	B
9000748	onsite wastewater system	10066	B
9000749	onsite wastewater system	10066	B
9000750	onsite wastewater system	10066	B
9000751	onsite wastewater system	10066	B
9000752	onsite wastewater system	10066	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000753	onsite wastewater system	10066	B
9000754	onsite wastewater system	10066	B
9000755	onsite wastewater system	10066	B
9000759	onsite wastewater system	10066	B
9000760	septic	10067	B
9000761	septic	10067	B
9000762	septic	10067	B
9000763	septic system	10067	B
9000764	septic system	10067	B
9000767	septic system	10067	B
9000769	septic system	10067	B
9000771	septic system	10067	B
9000774	septic system	10067	B
9000778	septic system	10067	B
9000780	septic system	10067	B
9000784	septic system	10067	B
9000785	septic system	10067	B
9000786	septic system	10067	B
9000790	septic sytem	10067	B
9000791	septic system	10067	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000974	septic system	10067	B
9001006	septic system	10067	B
9000975	sorghum	10085	B
9000991	alfalfa	10086	B
9000994	alfalfa	10086	B
9000996	alfalfa	10086	B
9000998	alfalfa	10086	B
9001009	alfalfa	10086	B
9001010	alfalfa	10086	B
9001011	alfalfa	10086	B
9000982	wheat field	111	B
9000972	corn field	115	B
9000995	soybeans	116	B
9000735	abandoned feedlot	2048	B
9000930	abandoned feedlot	2048	B
9000931	abandoned feedlot	2048	B
9000932	abandoned feedlot	2048	B
9000988	airport runway	4582	B
9000933	mobile home park	6515	B
9000768	greyhound farm	752	B

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000770	greyhound farm	752	B
9000773	greyhound farm	752	B
9000973	greyhound farm	752	B
9001001	concentration of septic systems	0	C
9001012	farmstead	10008	C
9001008	railroad track	10013	C
9000795	salvage yard	10015	C
9000756	onsite wastewater system	10066	C
9000757	onsite wastewater system	10066	C
9000758	onsite wastewater system	10066	C
9000772	septic system	10067	C
9000775	septic system	10067	C
9000787	septic system	10067	C
9000789	septic system	10067	C
9000794	septic system	10067	C
9000971	septic system	10067	C
9000984	septic system	10067	C
9000989	alfalfa	10086	C
9000993	wheat	111	C
9000796	cattle feedlot	2048	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000797	swine facility	2048	C
9000798	cattle feedlot	2048	C
9000999	cattle farm	211	C
9000737	dog kennel	752	C
9000783	greyhound farm	752	C
9000799	Country Club golf course	7992	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: ABILENE, CITY OF
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
6	3	7	1	3	5

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **ABILENE, CITY OF**
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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
7992	Golf Course	Fertilizers and pesticides	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
4212	Local Trucking, without Storage	VOCs	D
1542	Nonresidential Construction	Sedimentation	B2
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	B2
"	"	"	B*
"	"	"	C
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
3523	Farm Machinery and Equipment	inorganics	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **ABILENE, CITY OF**
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Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas. Proper Waste Management and Grazing Management.	KDHE– Livestock Waste Management Section, KAR 28–16, KDA, County Soil Conservation District, NRCS
7992	Golf Course	Fertilizers and pesticides	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals.	KDHE, KAR 28–16
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
1521	Single–family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
3523	Farm Machinery and Equipment	inorganics	Discharge to POTW	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	Maintain animal feeding areas and feed storage areas to minimize contact with storm water. Collect and treat process wastes.	40 CFR 412 and State or federal Storm water pollution prevention regulations

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

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Ground Water Single Well Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is the well under the influence of surface water?	No	0	0	0	0	0	0
2	Does the well meet KS water well construction standards?	Yes	0	0	0	0	0	0
3	Is the depth of the well less than 30 feet?	No	0	0	0	0	0	0
4	Are there unplugged, abandoned water wells present in Zone A?	No	0	0	0	0	0	0
5	Is there gravel pack within 20 feet of the surface?	No	0	0	0	0	0	0
6	Does a PWS own or control Zone A?	No	1	1	1	1	1	1
7	Does Zone A consist entirely of native grass?	No	1	1	1	1	1	1
8	Is there a contaminated well in the Zone A?	No	0	0	0	0	0	0
9	Is a class V UIC well present?	No	0	0	0	0	0	0
10	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
11	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
12	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
13	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
14	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
15	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
16	Does Zone B consist entirely of native grass?	No	1	1	1	1	1	1
17	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
19	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0
20	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
21	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
22	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are any orchards present in Zone B?	No	0	0	0	0	0	0
24	Are orchard nutrient and pesticide plans in use for each site?	Yes	0	0	0	0	0	0
25	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	1	0	0	0
26	Is there a railroad or major highway in Zone B or C?	No	0	0	0	0	0	0
27	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
28	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
29	Is an irrigation well located in Zone B or C?	No	0	0	0	0	0	0
30	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
31	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
32	Are there unplugged, abandoned water wells present in Zone B or C?	Yes	1	0	0	0	0	0
33	Are any commercial, industrial, or urban areas present in Zone C?	Yes	1	1	1	1	1	1
34	Are water quality protection plans in use for each site/area?	No	1	1	1	1	1	1
35	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
36	Is each confined livestock facility registered with KDHE?	No	1	1	1	0	1	0
37	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
38	Are cropland nutrient management plans in place?	Yes	0	0	0	0	0	0
39	Are cropland pesticide management plans in place?	Yes	0	0	0	0	0	0
40	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
41	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

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Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
195659	There have been no cattle at this feedlot for about one year.	David Gurss

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Reynolds Livestock	2001432	No livestock at this location. Reynolds had a sale barn 1/2 mile to the west but it's been closed for several years	David Gurss

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Country Club golf course	9000799	golf course	David Gurss
Dog track	9000782	greyhound track	David Gurss
abandoned feedlot	9000735	abandoned feedlot	David Gurss
abandoned feedlot	9000930	abandoned feedlot	David Gurss
abandoned feedlot	9000931	abandoned feedlot	David Gurss
abandoned feedlot	9000932	abandoned feedlot	David Gurss
airport runway	9000988	airport runway	David Gurss
alfalfa	9000989	alfalfa	David Gurss
alfalfa	9000991	alfalfa	David Gurss
alfalfa	9000994	alfalfa	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
alfalfa	9000996	alfalfa	David Gurss
alfalfa	9000998	alfalfa	David Gurss
alfalfa	9001009	alfalfa	David Gurss
alfalfa	9001010	alfalfa	David Gurss
alfalfa	9001011	alfalfa	David Gurss
cattle farm	9000999	cattle farm	David Gurss
cattle feedlot	9000796	cattle feedlot	David Gurss
cattle feedlot	9000798	cattle feedlot	David Gurss
concentration of septic systems	9001001	concentration of houses on septic systems	David Gurss
corn field	9000972	corn field	David Gurss
dog kennel	9000737	Concentration of several greyhound farms. All residences use onsite wastewater systems and private water wells.	David Gurss
farmstead	9000990	farmstead	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
farmstead	9001012	farmstead	David Gurss
greyhound farm	9000768	greyhound farm	David Gurss
greyhound farm	9000770	greyhound farm	David Gurss
greyhound farm	9000773	greyhound farm	David Gurss
greyhound farm	9000783	greyhound farm	David Gurss
greyhound farm	9000973	greyhound farm	David Gurss
mobile home park	9000933	mobile home park	David Gurss
onsite wastetwater system	9000746	onsite wastewater system	David Gurss
onsite wastewater system	9000741	onsite wastewater system	David Gurss
onsite wastewater system	9000742	onsite wastewater system	David Gurss
onsite wastewater system	9000743	onsite wastewater system	David Gurss
onsite wastewater system	9000744	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000745	onsite wastewater system	David Gurss
onsite wastewater system	9000747	onsite wastewater system	David Gurss
onsite wastewater system	9000748	onsite wastewater system	David Gurss
onsite wastewater system	9000749	onsite wastewater system	David Gurss
onsite wastewater system	9000750	onsite wastewater system	David Gurss
onsite wastewater system	9000751	onsite wastewater system	David Gurss
onsite wastewater system	9000752	onsite wastewater system	David Gurss
onsite wastewater system	9000753	onsite wastewater system	David Gurss
onsite wastewater system	9000754	onsite wastewater system	David Gurss
onsite wastewater system	9000755	onsite wastewater system	David Gurss
onsite wastewater system	9000756	onsite wastewater system	David Gurss
onsite wastewater system	9000757	onsite wastewater system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
onsite wastewater system	9000758	onsite wastewater system	David Gurss
onsite wastewater system	9000759	onsite wastewater system	David Gurss
railroad track	9000779	railroad track	David Gurss
railroad track	9000781	railroad track	David Gurss
railroad track	9001008	railroad track	David Gurss
residential community	9000734	Concentration of homes (30 year-round and 20 seasonal) on individual onsite wastewater systems. Public water service from the Ci	David Gurss
rural residence	9000776	farmstead	David Gurss
rural residence	9000777	farmstead	David Gurss
rural residence	9000793	farmstead	David Gurss
salvage yard	9000795	salvage yard (10 acres)	David Gurss
septic	9000760	septic	David Gurss
septic	9000761	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic	9000762	septic system	David Gurss
septic system	9000763	septic system	David Gurss
septic system	9000764	septic system	David Gurss
septic system	9000767	septic system	David Gurss
septic system	9000769	septic system	David Gurss
septic system	9000771	septic system	David Gurss
septic system	9000772	septic system	David Gurss
septic system	9000774	septic system	David Gurss
septic system	9000775	septic system	David Gurss
septic system	9000778	septic system	David Gurss
septic system	9000780	septic system	David Gurss
septic system	9000784	septic system	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
septic system	9000785	septic system	David Gurss
septic system	9000786	septic system	David Gurss
septic system	9000787	septic system	David Gurss
septic system	9000789	septic system	David Gurss
septic system	9000791	septic system	David Gurss
septic system	9000794	septic system	David Gurss
septic system	9000971	septic system	David Gurss
septic system	9000974	septic system	David Gurss
septic system	9000984	septic system	David Gurss
septic system	9001006	septic system	David Gurss
septic sytem	9000790	septic system	David Gurss
sorghum	9000975	no-till sorghum	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
soybeans	9000995	soybeans	David Gurss
swine facility	9000797	swine facility	David Gurss
wheat	9000993	wheat	David Gurss
wheat field	9000982	wheat field	David Gurss

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1082**
Diversion Id's: **0**
Status: **Accepted**
Submit Date: **2003-04-16 13:25:37**

Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **ABILENE, CITY OF**
Assessment Area: **1082**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Are watershed water quality protection plans in place?	Sand Springs Aquifer Protection Project	David Gurss